CMA DISHMACHINES

MODEL EVA

INSTALLATION & OPERATION

Rev 1.03

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1. Specifications

1.1 EVA

	USA	METRIC
WATER CONSUMPTION		
PER RACK	1.25 GAL.	(4.73 L)
PER HOUR	46.2 GPH.	(174.9 LPH)
OPERATING CYCLE		
WASH TIME-SEC.	53	53
RINSE TIME-SEC.	30	30
DWELL TIME-SEC.	7	7
TOTAL CYCLE	90 SEC.	90 SEC.
OPERATING CAPACITY		
RACKS PER HOUR	37	37
WASH TANK CAPACITY	1.25 GAL.	(4.73 L)
PUMP CAPACITY	52 GPM	(196.8 LPM)
WATER REQUIREMENTS		
REQUIRED MINIMUM TEMP.	120°F	(49°C)
RECOMMENDED TEMP.	140°F	(60°C)
WATER INLET	½"	—
DRAIN CONNECTION	2"	—
DIMENSIONS		
DEPTH	25 ¾"	(65.405 cm)
WIDTH	25 ¾"	(65.405 cm)
HEIGHT	55-56"	(140-142 cm)
MAX CLEARANCE FOR DISHES	17"	(43.18 cm)
STRANDARD RACKS	19 ¾" x 19 ¾"	(50 x 50 cm)
ELECTRICAL RATING	**VOLTS** (60-Hz)	**AMPS**
	115	16
WASH PUMP MOTOR	1 HP	
SHIPPING WEIGHT		
APPROXIMATE	273#	(124 kg)

2. Getting Started

2.1. Introduction to the EVA

The EVA Dishmachine is safe and easy to operate with its “Auto Start/Stop” and it’s economical to operate—using only 1.25 gallons of water per cycle and less than 1900 watts of power when running. The EVA Dishmachine’s top mounted controls include built-in chemical pumps and a de-liming system that assures proper chemical usage. Its integrated scrap tray prevents food soil from entering the drain system. The EVA can be run at a rate of 37 racks / 148 covers per hour and its heavy duty stainless steel construction assures long life and years of trouble free operation.

The EVA is available for straight or corner applications.

This manual is structured to provide a complete reference guide to the EVA Dishmachine. It is presented in a manner that all users will be able to comprehend and use as an effective tool in supporting the operation and maintenance of the dishmachine. The first section explains how the machine is packaged and what to look for when receiving the machine.

After unpacking the machine, this manual explains how to install and set up the machine for use. Requirements are given for plumbing, wiring, and space considerations. *These attributes of the machine are always taken into consideration by our well-trained sales representatives prior to the order being placed*. In the manual, guidance is also given for installation to ensure that the machine will be able to run at optimum conditions.

The Operation section of the manual may be used for instruction and procedures when required. We make this portion of the manual easy to understand so that all levels of operators may be able to read and comprehend the operation of the machine. The function of the machine itself is mostly automatic and takes little training to put into full operation.

A wiring diagram for the machine is located at the end of the manual.

CMA warranties the workmanship of the machine.

We are committed to providing the best machines and customer service in the food industry and your feedback is welcome.

2.2. Receiving and Installation

The dishwasher is shipped from the factory in a corrugated box on a wooden pallet. The installation guidelines give a systematic procedure for setting up the machine.

Start by removing the dishmachine from the box. Remove the packaging, unwrap the machine and check for the following components:

- Inside the wash tank is a plastic bag with one control box key and a cam timer wrench.
- Tube stiffeners must be used to prevent the feed tubes from curling inside the chemical pail and sucking air. These are located on the outside of the machine with the chemical tubing already installed into the stiffeners. The ends of the chemical tubing have been flared so that the tubing will not pull out of the stiffener. Red is for detergent, white for sanitizer, and blue for rinse aid.

2.2.1. Electrical*

The EVA Dishmachine must be hard wired directly to a dedicated 115 VAC, 60Hz circuit equipped with proper circuit protection. The main power switch is at the top-right side of the control box.

2.2.2. Plumbing*

The water supply connection is made with a ½" hot water line to the water supply inlet on the top of the machine. The water supplied to the machine is recommended to be 140° F. The time necessary to deliver water to the machine is controlled by the number four cam. This cam provides the serviceman with the opportunity to fine tune the machine to deliver the proper amount of water with each cycle.

The EVA Dishmachine has a 2" drain. The following section explains how to connect the drain.

* **Electrical and plumbing connections must be made by a qualified person who will comply with all available Federal, State, and Local Health, Electrical, Plumbing and Safety codes**

2.2.3. Connecting the Scrap Accumulator and Drain

The scrap accumulator is designed to perform two basic functions:

1. It allows a method to discharge all the heavy solids out of the machine with each wash cycle.
2. It provides accumulation capacity to allow draining the contents of one cycle regardless of the discharge rate of the existing drain.

The drainpipe is connected to the scrap accumulator drain using a 2” no-hub connector as shown in **Figure 2.2.3** below.

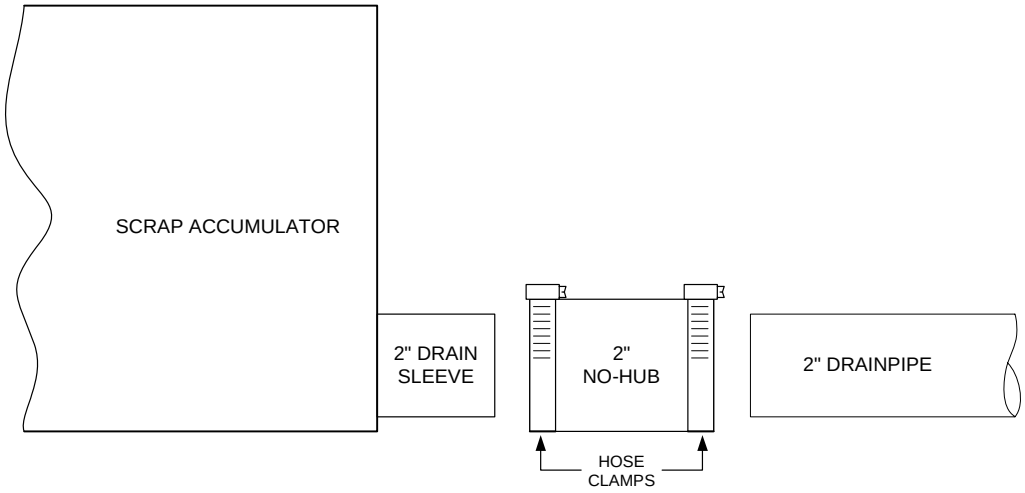

Figure 2.2.3

3. Operation

3.1. Initial Setup

All machines are equipped with switches to prime the peristaltic pumps at anytime the master switch is "ON".

Following completion of the installation, always fill the machine with water before starting the machine.

1. With the power “ON” hold the fill button until the water level overflows into the scrap accumulator.
2. Check the chemical lines to the chemical containers.
    a. Red: detergent line.
    b. Blue: rinse agent line.
    c. Clear/White: sanitizers destainer line.
3. Activate the prime switches for the three chemical pumps until product is discharging into the machine.
4. To start the machine, close the doors - this will automatically start the machine. The machine will run through its cycle.
5. Operate the machine one cycle and watch to ensure that the chemicals are delivered and stop during the cycle. Remember: red tube - detergent: blue tube - rinse: and clear/white tube - sanitizer. Check temperature at the end of the cycle for 140°F, 60°C.

   The amount of product delivered by each cam is controlled by adjusting the cam’s opening. When the micro switch rides down into the cam the peristaltic pump motor begins to rotate. It will continue to rotate until it rides up out of the groove. Therefore, to extend the amount of product delivered to the machine, open the grove; to reduce the amount of product delivered to the machine, close the groove. The cams are slip fit and a cam adjustment wrench is provided.

CAUTION: The motors on the new peristaltic pumps may be stalled by excessive tightening of the cover plate screws. If a peristaltic pump does not turn when the micro switch is activated, loosen the screws on the cover plate.

Technical personnel are available during normal business hours at CMA Headquarters should you, as an installer, have any questions please call **800-854-6417**.

3.2. Startup Procedures

Please follow the instructions given here before each shift to assure trouble free operation.

2. Drain the water if it is cold by activating the drain switch until all the water is out of the machine.
3. Check the drain screen and, if needed, remove it from the machine and clean it out. After cleaning, replace it properly into the sump housing.
4. Check the wash arm spray tips. If they are clogged, clean them with a toothpick and rinse them at the sink. Replace the wash arms.
5. Press and hold the fill switch until the water overflows into the scrap accumulator.
6. Once a proper water level is established, check the temperature of the water (it should be approximately 140°F, 60°C).
7. Insert the tray of dishes into the machine and close the doors. The machine will automatically start when the doors are closed.
8. After the machine stops, raise the doors, remove the tray of dishes and allow to dry before stacking.

If the doors are lifted during a cycle, the machine will automatically stop running.

The EVA will run through the wash and rinse cycles automatically feeding the proper chemicals and then turn itself off.

3.3. Quick service guide

MODELS: CMA 44/66 CONVEYOR (S)

TECHNICAL ISSUE	CAUSE	SOLUTION
Continuously cycles	Manual/auto switch in *MANUAL mode* or faulty	Turn switch to *AUTO* position or replace
	Conveyer timer faulty	Replace timer, P/N 13418.85
Final rinse does not come on	Faulty tilt micro switch	Replace micro switch, P/N 00411.00
	Micro switch cam out of adjustment	Adjust cam
	Faulty rinse solenoid valve	Replace diaphragm or coil, P/N 00738.15
Does not run	Power disrupted	Check wall breaker switch
	Faulty table limit switch	Check and replace, P/N 13827.10
	Faulty door reed switch	Check and replace, P/N 00557.30
	Burnt internal glass fuse	Check and replace, P/N 13403.26
	Faulty power shut off switch	Check and replace, P/N 00421.83
	Faulty main contactor	Check and replace, P/N 13003.50
Losing water	Machine is not level	Level machine using leg adjustments
	Dishtable slants away from dishmachine, loosing water down quick- drain on table	Slant table to carry excess water towards machine tank/plumb quick-drain back to machine above water line
Oil coming out of conveyor motor	Broken shaft seal in gear box	Replace gear box, P/N 13504.00 OR .12
Conveyor cam bearing destroyed	Wrong conveyor motor rotation	Replace bearing, check and correct conveyor motor rotation, P/N 13507.50
Machine only runs in manual mode	Faulty reed switch at the dishmacine entrance	Check and replace, P/N 00557.56
	Faulty conveyor timer	Check and replace, P/N 13418.85
	Faulty manual/auto toggle switch	Check and replace, P/N 13003.70
Heater does not work	Faulty heater switch	Check and replace, P/N 00421.87
	Faulty heater thermostat	Check and replace, P/N 13417.85
	Faulty heater float switch	Check and replace, P/N 13463.10
	Faulty heater contactor	Check and replace, P/N 13003.50
	Faulty heater	Check and replace, P/N 13417.77
Low or no pressure at final rinse arm	Not adjusted or faulty pressure regulator	Adjust (20psi) or replace regulator, P/N 13602.45
	Clogged rinse arm jets	Clean rinse arm jets
	Faulty water solenoid	Check and replace solenoid, P/N 00738.15
No pressure at wash arms	Clogged manifold system	Check and clean
	Clogged spray jets	Check and clean
	Motor rotation, wrong direction	See wiring instruction on motor for proper rotation
	Debris stuck in pump cover/damaged impeller	Check and clean/replace impeller, P/N 03222.85

"All food dispensing establishments using chlorine or other approved chemical sanitizers shall, at all times, maintain an adequate testing device."

"Dishes and other eating and drinking utensils to be washed in a dishwashing machine shall be properly scraped and pre-rinsed and shall be stacked in racks or trays so as to avoid overcrowding, and so as to permit the wash and rinse waters to reach all surfaces of each utensil."

"In machine washing, multi-use eating and drinking utensils shall be washed in water containing a suitable detergent at a temperature from 120 degrees F. to 140 degrees F. or other method approved by the Department of Health.

"The water in the wash tank shall be changed during operation as often as is necessary to keep it reasonably clean. An effective concentration of detergent in the wash water shall be maintained at all times."

"Bactericidal treatment shall consist of exposure of all surfaces of dishes and utensils being washed to a rinse of clean water, at a temperature of not less than 180 degrees F. or other method approved by the Department of Health."

"All dishwashing machines shall maintain a flow pressure not less than 15 or more than 25 pounds per square inch on the fresh water line at the machine and not less than 10 pounds per square inch at the rinse nozzles. A suitable gauge cock shall be provided immediately upstream from the final rinse spray to permit checking the flow of the final rinse water. An easily readable thermometer accurate to $\pm$ 2 degrees F. shall be provided on both the wash and rinse water lines of the dishwashing machine which will indicate the temperature of the water solution therein."

"Dishwashing machines shall be thoroughly cleaned at least once each day. The pumps and the wash and rinse sprays or jets shall be so designed that a forceful stream of water will reach all surfaces of the utensils when they are properly racked. These parts shall be thoroughly cleaned at least once each day. The pumps and the wash and rinse sprays or jets shall be so designed that a forceful stream of water will reach all surfaces of the utensils when they are properly racked. These parts shall be readily accessible for inspection and cleaning."

"After bactericidal treatment, utensils and containers shall be stored at a sufficient height above the floor in a clean, dry place, protected from flies, splash, dust, overhead leakage and condensation, and other contamination. Containers and utensils shall be inverted, covered, or otherwise protected from contamination until used for serving."

Drain racks, trays, and shelves shall be made of non-corrodible material and shall be kept clean.

In handling containers and utensils the surfaces thereof which come in contact with food or drink shall not be touched by the hands, except during the process of washing.

Tables for clean and dirty dishes and food shall be so arranged that the dirty dishes will be as far removed from the food and clean dishes as may be possible.

All single-service articles and utensils shall be purchased in sanitary cartons and stored therein in a clean, dry place until used, and after removal from the cartons, these articles shall be handled in such a manner as to prevent contamination.

Please note the following procedures must be followed for City of Chicago Approval:

1. **All low energy models must have low-level sani alarms, both visual and audio.**
2. **All models must have a City of Chicago approval data label affixed to the machine.**
3. **Chlorine sanitizer must be a minimum of 100 PPM.**

5. Electrical Diagram